

Article

Occupational Health and Safety Scope Significance in Achieving Sustainability

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Abstract: A safe and healthy working environment is vital for overall sustainability, due to the fact that it affects opportunities of economic and social development. However, according to the International Labour Organization (ILO), despite the international commitment to Occupational Health and Safety (OSH) via the 2030's Agenda Sustainable Development Goals (SDGs), work-related accidents are still far too common. Work-related mortality accounts for 5% of all deaths worldwide; a toll which has increased dramatically due to the COVID-19 pandemic. Yet, in the context of COVID-19, new demands on the labour market, such as teleworking, adequate protective measures, and proper use of personal protective equipment when physical presence cannot be avoided, are necessitating new approaches to ensure health and safety. Arguably, education can be viewed as a cross-cutting strategy in advance of a culture of safety for future generations, through strengthening skills and broadening knowledge. Indeed, even though education cannot be considered a panacea, related to SDG 4, which seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, it can be considered a critical component to deal with OSH issues using a preventive, rather than a reactive, approach. Given this fact, European Agency for Safety and Health at Work (EU-OSHA) has stressed the prevention approach through mainstreaming OSH in education at all levels, and in all fields of vocational and academic training. Aware of the potential of universities to provide graduates the broad-based knowledge to produce labour-market skills including OSH, the aim of this study is to contribute to the discussion on mainstreaming OSH into Greek university education, using Harokopio University (HUA) as a case study. For this purpose, a web-based survey was conducted to address HUA's students, faculty members, and staff OSH knowledge, risks awareness, and attitudes, as well as their perceptions, opinions, and beliefs about the role of OSH for academia. A statistical analysis depicted respondents' high level of willingness to contribute to the promotion of OSH, while additional evidence suggests a considerable commitment of the respondents to participate in HUA's OSH-related training and education.

Keywords: occupational safety and health; training; education; higher education; Sustainable Development; SDGs; 2030 Agenda



Citation: Kavouras, S.; Vardopoulos, I.; Mitoula, R.; Zorpas, A.A.; Kaldis, P. Occupational Health and Safety Scope Significance in Achieving Sustainability. *Sustainability* **2022**, *14*, 2424. <https://doi.org/10.3390/su14042424>

Academic Editor: Lucian-Ionel Cioca

Received: 19 December 2021

Accepted: 16 February 2022

Published: 20 February 2022

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1. Introduction

Amid the COVID-19 pandemic and this rapidly changing world, there is a growing discussion addressing OSH and sustainable development (SD) [1–6]. OSH and SD, though not apparent at first sight, are highly interrelated, given that they attempt to address the contemporary human challenges inter alia well-being, a safe and decent job, economic

growth, and the climate crisis [7–9]. In this manner, both work together to build a better future—a more sustainable world [3,7,10–16]. OSH is generally defined as the science of the anticipation, recognition, evaluation, and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment [17,18]. A multidisciplinary activity focuses on fostering a safe and healthy working environment [19]. Given this fact, the requirement of the Rio Declaration on healthy and productive life is particularly relevant to the work environment, and calls for occupational health action [20]. Accordingly, “... human beings are at the center of concern for sustainable development. They are entitled to a healthy and productive life in harmony with nature” [21].

A safe and healthy working environment is vital for overall sustainability, due to the fact that it counteracts opportunities in economic and social development [22,23]. However, according to ILO, despite the international commitment to OSH, via 2030’s SDGs, work-related accidents and diseases are still far too common. Specifically, according to the ILO, OSH is directly impacting SDG number 3, which aims to secure healthy lives and promote the well-being of all people of all ages. In particular, the sub-target 3.9 will attempt to “... substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination” by 2030; SDG number 8, which aspires to promote inclusive and sustainable economic growth, employment, and decent work for all, and particularly target 8.8, which seeks “... to protect labor rights and promote safe and secure working environments for all workers”; furthermore, SDG number 16 promotes just and inclusive societies [2,24].

Although OSH appears to be a social matter, work-related accidents were responsible for the deaths of 1.9 million people in 2016, according to the World Health Organization (WHO) and ILO [25,26]; its economic dimension is not to be underestimated. Work-related mortality accounted for 5% of all deaths worldwide [18,27]; a toll that has increased dramatically due to the COVID-19 pandemic [28–30]. Early efforts to quantify the economic impact of work-related accidents and diseases suggest two distinct cost categories: human and economic. Human costs are easily perceivable; when an individual experiences an accident or suffers from a disease, an immediate impact on its well-being occurs [31]. On the other hand, economic costs are somewhat less evident, however, they seriously affect the Gross Domestic Product (GDP). The European Commission (EC) reported that the sum of work-related accidents and diseases involves an annual expenditure between 2.6% and 3.8% of the GDP of the European Union (EU) member states [32]. At the company level, high accident rates lead to low reputation status, and consequently, to lower demand for products and services, as well as difficulties to retain or hire employees [33]. On the contrary, scholarly literature records a return on investment of 1:2.3 to 1.59 for the costs specifically relating to OSH prevention measures (i.e., for each euro invested 2.3 to 5.9 flow back) [34]. Moreover, encouraging OSH has been shown to increase productivity via quality of work, and thereby avoid the unnecessary loss of materials and ensure high-quality materials and services [16,35–37].

Thus, the prevention of work-related accidents and diseases, aside from employers’ moral and legal obligation to provide a healthy and safe working environment, minimizes the unnecessary economic cost [38–40]. Achieving a safe and healthy working environment is a common interest for employees, employers, wider society, and the economy [41–43]. When it comes to the latter, mainstreaming OSH in education can serve as a catalyst to boost OSH [22,23]. In this framework, the objective of this study is to assess the level of awareness on OSH issues among students, faculty members, and staff of the HUA. In addition, this research focuses on respondents’ basic knowledge in OSH concept, preparedness to tackle emergencies, as well as the proper use of personal protective equipment (PPEs). An online 19-item questionnaire was used to serve the scope of the current research.

1.1. Occupational Safety and Health and Education: An Overview

An accident, in its most often used definition, is defined as “any unplanned event that resulted in injury or ill health of people, or damage or loss to property, plant, materials or the environment or a loss of business opportunity” [44]. Historically, since the early days, work-related accidents have been regarded as a natural aspect of life. Accidents do happen at work, and working feeds the life cycle [45–48]. However, due to insufficient proof or biased witnesses, early thinking about how an accident occurred was that these were random Acts of God [49]. Later on, in very early modern times [50], the most controversial theory of accident causation was the ‘accident proneness theory’. This theory assumed that a small proportion of people are much more likely to get involved in accidents than others [50,51]. Currently, however, most researchers agree that there is no convincing evidence of accident proneness [52,53]. As a result, various causality hypotheses quickly supplanted early, very straightforward beliefs [54]. As such, the modern view implies that an accident occurs via a combination of multiple contributory factors. In this context, accident causation models were established, in order to understand the mechanism of accident causation, meaning the precise causal factors, as well as the sequence of events that lead to it [55–57]. Such factors are unsafe working conditions and acts. Working conditions cover areas such as temperature, noise, lighting, air quality, inadequate machine guards, defective tools, etc., or whether unsafe acts are performed any time an employee fails to follow safety rules. These actions include working with chemicals without safety gloves, removing safety devices, and working under the influence of alcohol and/or drugs.

In connection with the above, as the world struggles to recover from the economic and social impact of the COVID-19 pandemic; the topic of OSH takes on a great significance in achieving sustainability [58,59]. Yet, in the context of COVID-19, new demands on the labour market such as teleworking, adequate protective measures, and proper use of personal protective equipment when physical presence cannot be avoided, are necessary new approaches to ensure health and safety [4,29,60–64]. Arguably, education can be viewed as a cross-cutting strategy in advance of a culture of safety for future generations, through strengthening skills and broadening knowledge. Indeed, even though education cannot be considered a panacea (related to SDG 4 which seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all), it can be considered a critical component to deal with OSH issues, using a preventive, rather than a reactive, approach [65–67]. In particular, target 4.4, with regards to education, sets out to “... substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship” [21]. Given this fact, EU-OSHA has stressed the prevention approach through mainstreaming OSH in education at all levels, and in all fields of vocational and academic training [68]. OSH education is defined as any kind of formal or informal education that is aimed at learning and improving the knowledge, insight, skills, and attitudes that are necessary for safe working [69–71].

At the university level, a focal point of the present study, OSH is valuable for bridging the gap between their future job and OSH issues [72–74]. During the 1970s, an important step towards mainstreaming OSH in education was taken in EU countries such as Germany, France, the United Kingdom, and Belgium, with the establishment of the first university courses in safety [23]. The proposal of the ISSA Safety Training Section, which was later taken up by the European Network of Safety and Health Professional Organisations (EN-SHPO), paved the way for European harmonization [75]. Later on, the EU-OSHA supports the fact that the mainstreaming OSH in education should be a priority, starting from pre-school and continuing throughout the curriculum, and should be considered a part of the lifelong learning agenda. The EU-OSHA report supports this by stating, “Integrating or mainstreaming OSH into education forms a key part of developing a prevention culture by teaching children and young adults to live and work safely ... is necessary to ensure that young people really are informed about core principles of risk awareness and prevention

before they enter the world of work . . . should be a part of the life-long learning process, from pre-school onwards.” [68]

A further step was taken in 2010–2012 by a European project, EUSafe. The EU-funded EUSafe project’s initial work included a review of the education programmes across the member states [76,77]. In the United States (US), since the 1980s, all engineering fields at US universities have been mandated to embed an OSH course into the curriculum, and ensure that students pass this course to graduate [78]. Nowadays, many others worldwide have followed [79,80].

1.2. OSH Legal Framework in Greece

The modern concept of OSH includes the laws, rules, principles, even standards, that are intended to keep people safe, healthy, and informed about work-related hazards and risks [81]. EU’s OSH legislation is essential to protect the health and safety of the almost 170 million workers in the EU [82,83].

Regarding Greece, the OSH legal framework is undoubtedly established. Legislatively, the Hellenic Ministry of Labor and Social Affairs is the official authority in charge of all issues concerning OSH. Given this fact, Law 3934/1911 [84] on workers’ health and safety and bearable working hours, as well as Presidential Decree (PD) 112/1934 [85] on workers’ health and safety in working environments, are considered the OSH legislative foundations in Greece. Above all, Article 662 of the Greek Civil Code establishes a fundamental concept requiring employers to control work-related issues, in order to protect employees’ lives and health. However, the first comprehensive legislative act mainly based on a set of EU Directives that established a spectrum of employers’ and employees’ obligations for health and safety protection was Law 1568/1985 [86,87]. According to the latter, employers bear all the responsibilities to ensure the health and safety of their employees at work. Moreover, PD 294/1988 [88], which sets the minimum working hours for safety engineers and occupational physicians, incorporates specific parts of Law 1568/1985 [86].

Following the foundational OSH legislation dating from 1985 and 1988, PD 17/1996 [89] on measures to promote employee safety and health during work activities incorporates for Greece the Directives 89/391/EEC and 91/383/EEC [90,91]. Notably, *Directive 89/391/EEC* was the EU’s first document addressing the social aspect of OSH [92]. The decree stipulated employers’ obligations to perform a regularly updated written regular risk assessment, monitor health, and take the appropriate measures to eliminate or minimize risks, provide periodic adequate training, draw up plans in case of emergencies, and maintain a company register of accidents at work. Towards codifying Law 1568/1985 [86] and PD 17/1996 [89], Law 3850/2010 [93] has compiled all of the aforementioned OSH issues into a unified set of regulations for health and safety. The latter addresses a broad range of OSH matters, while it establishes specific competing bodies and committees responsible for occupational health and safety, and prescribes the role of protective and preventive services [94].

In response to the EC strategy 2007–2012 on OSH, the Hellenic State established a national strategy [95]. The ultimate objective of the national strategy was “ . . . to improve present work conditions and, more importantly, to protect the workers from adverse health effects”. With a vision for “ . . . creating safer, healthier and more productive workplaces in the private and public sector that will ensure the health and will promote the well-being of workers, while contributing in parallel to the sustainability of the enterprises and supporting the development of the economy”, the main strategic policy objective of the Hellenic Ministry of Labor and Social Affairs on OSH for the period is the establishment of a national system for OSH. Furthermore, Greece, in compliance with world standards, has ratified conventions of the ILO demonstrating a dedication towards achieving the Agenda 2030 (targets 8.7 and 8.8). Under ILO standards, the employer shall apply the following provisions: assure the safety of the work process, by providing free protective clothes and other required safety precautions. Furthermore, a centralized, autonomous, and efficient labour inspection system is required to maintain workplace safety and health. Last but not

less important, workers should receive effective forms of knowledge in all work-related safety and health aspects [96].

2. Materials and Methods

This study attempts to assess the level of awareness of OSH issues among students, faculty members, and staff of HUA. HUA is a state university dedicated to promoting research and learning in a small, well-focused set of intellectual areas, namely economics, sustainable development, geography, nutritional sciences, and information technology. The university, situated in Kallithea, originates from an educational institution that was first established in 1929 by the benefactor Panagis Harokopos. The University's campus facilities include all four academic departments, the central administration, the library, the information technology centre, and the administrative services. The 3D university campus map can be found here: <https://www.hua.gr/media/hua3d/> (accessed on 16 December 2021).

Methodologically wise, following a critical review of existing relevant studies [78,97–101], an online questionnaire was developed and administered using Google Forms as the main tool, an approach in accordance with the practice used widely [102–106]. The questionnaire was developed adapting the 'Safety Culture Questionnaire', used by the University of Aegean in a relevant study [100], as well as previous work on factors affecting the level of awareness regarding OSH [66,107–110]. Ultimately, a 19-item questionnaire was developed. The first part of the questionnaire included demographic-type questions to gain information about each respondent's gender, age, affiliation status (undergraduates, graduates, faculty members, or staff). Next, a number of non-demographic questions were included to gain information on the level of awareness on OSH issues among students, faculty members, and staff. Furthermore, there was information on students', faculty members', and staff's basic knowledge in OSH, preparedness to tackle emergencies, and proper use of personal protective equipment (PPE).

Potential respondents were invited to participate in the survey via their email addresses, which directed them to an exclusively closed-ended questions e-survey. To help increase response rates, a follow-up email was also sent. The study targeted 1830 undergraduate, 392 postgraduate students, 302 doctoral candidates, and 237 faculty members and staff. This means that invitations were sent to 2761 email addresses. Response rate-wise, (a) it is impossible to know how many addresses are actually active, while (b) high response rates—similar to those presented by polling and statistical research undertakings, which in most cases, offer to the participants some kind of reward/voucher—could not be expected, provided that e-surveys are very often distributed at the HUA institutional emails, for scientific and educational purposes. In addition, it is not unusual for e-surveys to score a low response rate; the targeted sample is universities' affiliates [111,112].

Data sorting was completed using Microsoft Excel, while statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) software. Empirical findings were calculated on the basis of the respondents' willingness to advance HUA's attempts to promote OSH education, Equation (1), as well as their willingness to further university OSH courses, teaching aids, or dedicated seminars and workshops, Equation (2). The best-fitting model has been developed, meaning that only statistically significant variables are included. The (dummy) variables in the logistic equations above represent the variable presented in Table 1.

$$\text{Logit}[(\text{Symvoli} = 1)] = b_0 + b_1 \text{Seminar}_F + b_2 \text{Capacity} + b_3 \text{Priority} + b_4 \text{Age} + \varepsilon_i \quad (1)$$

$$\text{Logit}[(\text{Course} = 1)] = b_0 + b_1 \text{Seminar}_F + b_2 \text{Capacity} + b_3 \text{Priority} + b_4 \text{Age} + \varepsilon_i \quad (2)$$

Table 1. Variables explanation.

<i>Symvoli</i>	respondent is willing to advance HUAs’ attempts to continue promoting OSH-education (yes = 0) or not (otherwise = 1)
<i>Course</i>	respondent is interested to be provided with a university-level OSH course (yes = 0) or not (otherwise = 1)
<i>Seminar_F</i>	respondent is interested to take a university-level OSH course (yes = 0) or not (otherwise = 1)
<i>Capacity</i>	respondent is a university student (yes = 0) or not (otherwise = 1)
<i>Priority</i>	respondent considers that the OSH education development should be given high priority among HUA members (yes = 0) or not (otherwise = 1)
<i>Age</i>	respondent is younger than thirty-five years old (yes = 0) or not (otherwise = 1)
ϵ	error term

3. Results and Discussion

The first section provides information on the demographic profile of the respondents relating to gender, age, affiliation status, and affiliated department (Figure 1). From a gender perspective, 64.4% of the 222 respondents are women. Concerning their age, the majority of the respondents (53.6%) are between the ages of 18 and 25; 23.9% are between the ages of 25 and 35, 19.4% are between 35 and 50, and only 3.1% are beyond 51. In terms of affiliation status, 50.5% of the affiliated groups are undergraduates, 32.9% are postgraduate students (MSc), and 9.5% are doctoral candidates (PhD), while only 7.1% are faculty members. Department-wise, 33.8% are affiliated with the department of Nutrition and Dietetics, 22.1% with department of Geography, and 23.9% with the Department of Economics and Sustainable Development.

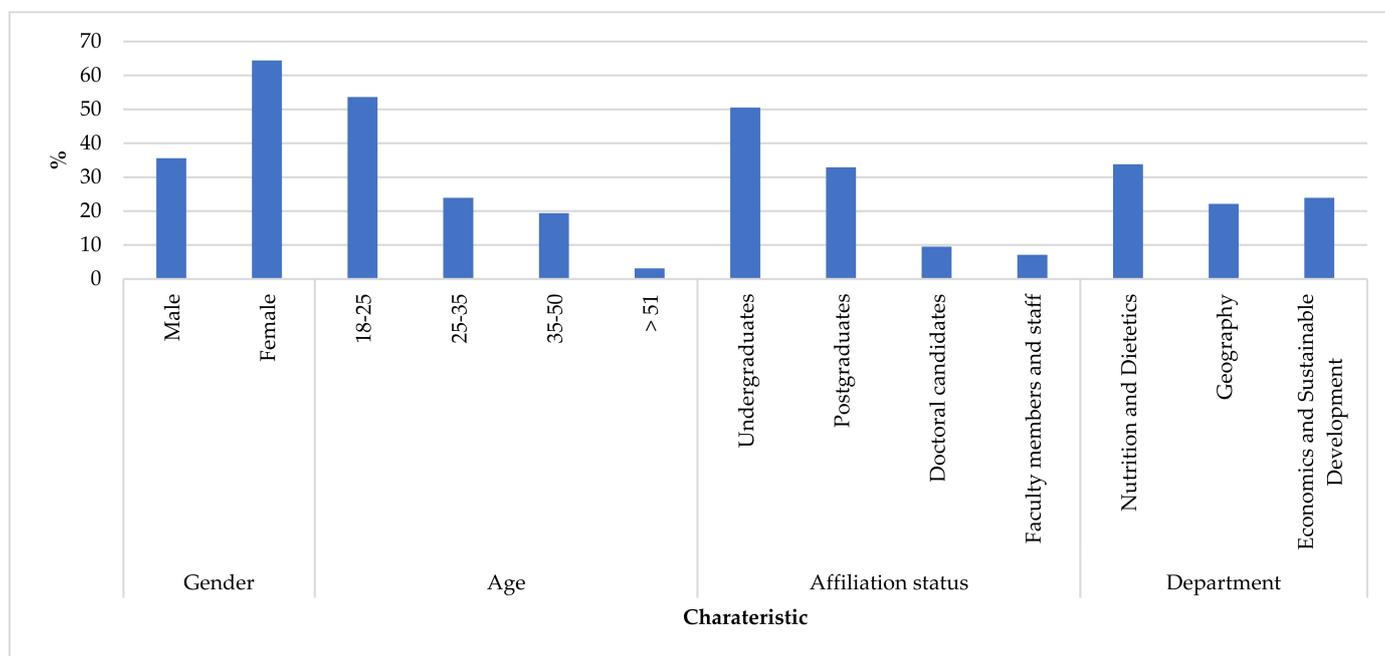


Figure 1. Demographic profile chart.

Surveyees were then asked about their knowledge on OSH concept, and whether the university applies OSH rules and procedures at its premises. As indicated in Figure 2, the majority (99.1%) are familiar with the OSH concept, and just 0.9% are not familiar at all. In terms of whether HUA applies OSH rules and procedures; 49.5% respond positively, 43.7% report it does to a certain extent, whereas just 6.8% respond negatively.

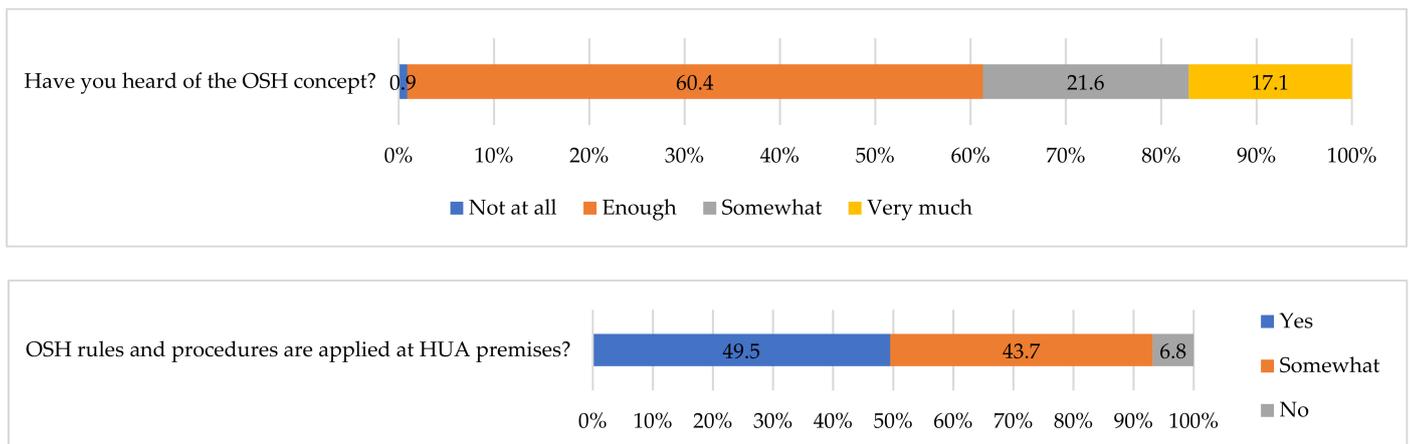


Figure 2. Respondents' OSH concept knowledge.

The next question was about surveyees' OSH risks awareness (Figure 3). Regarding this question, 61.7% report that they are completely unaware, and around a third (29.75%) claim to be slightly aware, while just 8.6% answer that they are aware. A similar pattern appears when surveyees were asked if they have been trained to identify, prevent, and handle OSH-related potential risks that they may encounter. In particular, 62.2% say they were never trained, 28.8% claim to have been trained to a certain degree, while only 9% say that they have been adequately trained. This implies that respondents, even though they are strongly informed about the OSH procedures applied at HUA, are not very aware, and are only somewhat trained to confront those risks.

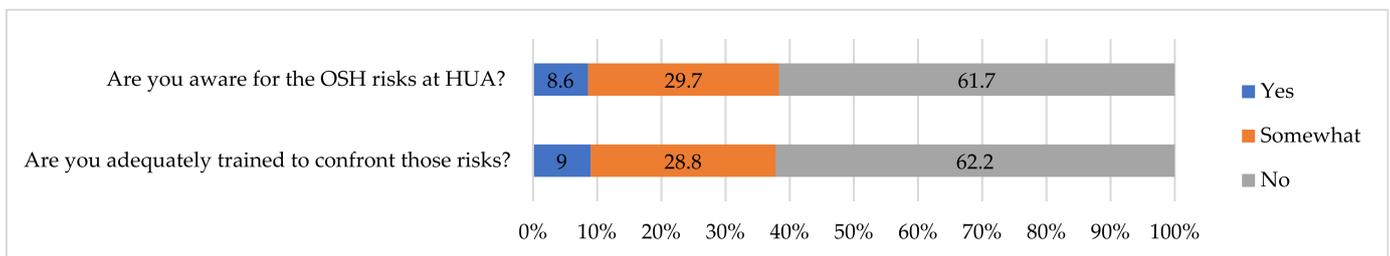


Figure 3. OSH awareness regarding risks at HUA and training.

Surveyees were further asked about their experience in participation in safety drills in order to respond to an emergency, if they consider such training useful and important, and whether they experienced an accident either as victims or witnesses at HUA (Figure 4). The most common example is fire drills, in which a simulation or fire scenario is proposed, and participants are guided on how to respond to it. The majority (97.7%) of the respondents answer that they have never participated in any; however, a large percentage of respondents report they consider them very important (46.8%) or quite important (47.3%). These findings require the HUA principals to further insist on OSH procedures, in order for students, faculty members, and staff to be ready to tackle any safety challenge. Regarding the experience of an accident, 79.3% respond positively, which is a noteworthy finding with respect to accident reporting culture. Upon this finding, the HUA principals should sensitise students, faculty members, and staff to report all accidents or near-misses. Accident reporting is a procedure in which any accident is reported in order to assess corrective or preventive actions.

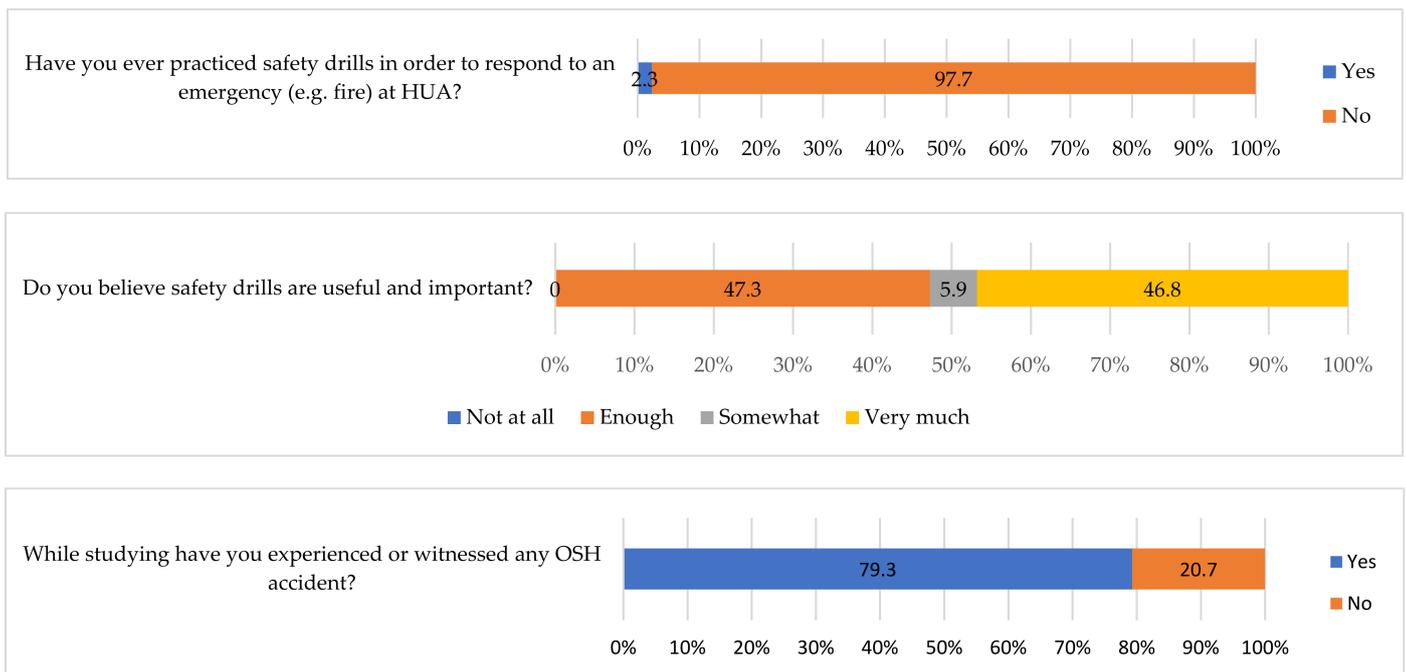


Figure 4. Safety drills executed and importance and accident experience at HUA.

Surveyees were further asked if they wear PPE when needed (e.g., in labs) in order to avoid accidents and while they deemed them necessary for their personal protection (Figure 5). The results showed that the majority (95.9%) of respondents deemed PPE necessary, even though adherence to wearing them is still a problem. Only four out of ten (41%) use them frequently, a few just use them occasionally (14.9%), others rarely (25.7%), and some never (18.5%). This implies a need for continuous training and audits of proper use of PPEs when needed.

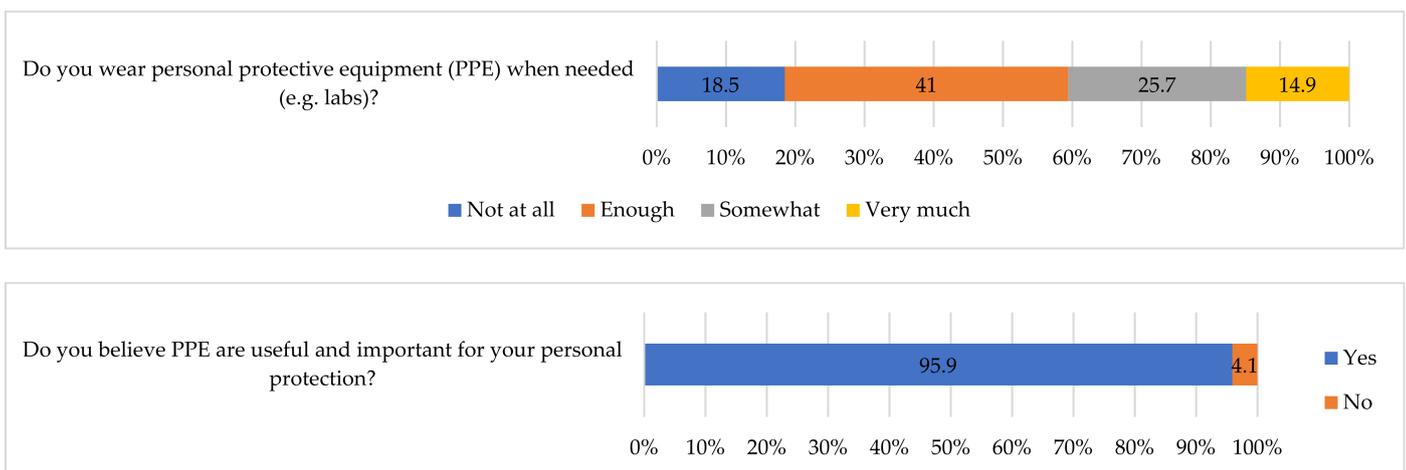


Figure 5. Use of PPEs and importance.

Furthermore, the surveyees were asked if HUA encourages discussion on OSH issues and whether they are interested to contribute HUA to further promote OSH (Figure 6). Interestingly, respondents' replies suggest—albeit to differing levels—a high-level willingness (97.3%) to contribute to the HUA to further promote OSH; even though 26.1% of them answered that HUA does not encourage discussion of OSH issues.

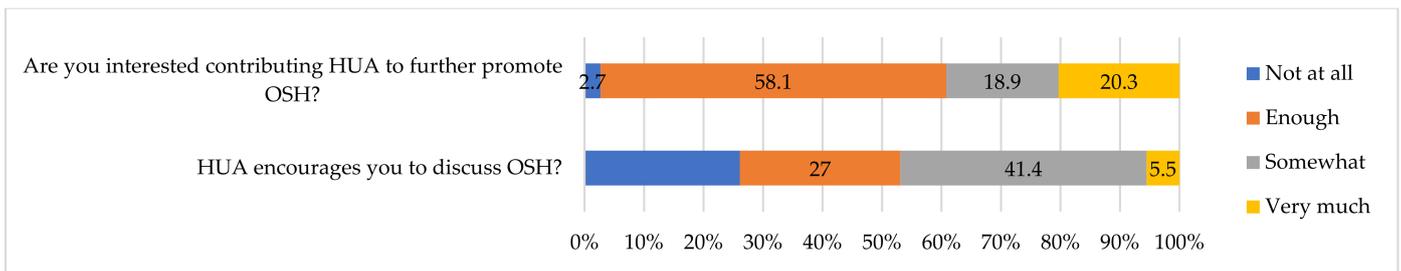


Figure 6. HUA, towards a safety culture.

Finally, the surveyees were asked their opinion on whether OSH has to be a priority for academia, if they have ever attended OSH seminars or workshops, and whether they are interested in attending. Last but still important is if they would like HUA to offer them an OSH-related course (Figure 7). The majority (94.1%) of the respondents believe that OSH should be a high priority for academia. Towards this fact, findings of the current research also indicate the survey respondents’ strong interest—in attending seminars or workshops related to OSH (97.8%), despite the fact that nearly two out of three (68%) have already attended. Just as importantly, approximately two-thirds of the respondents (67.1%) indicated that they would like to be offered an OSH course.

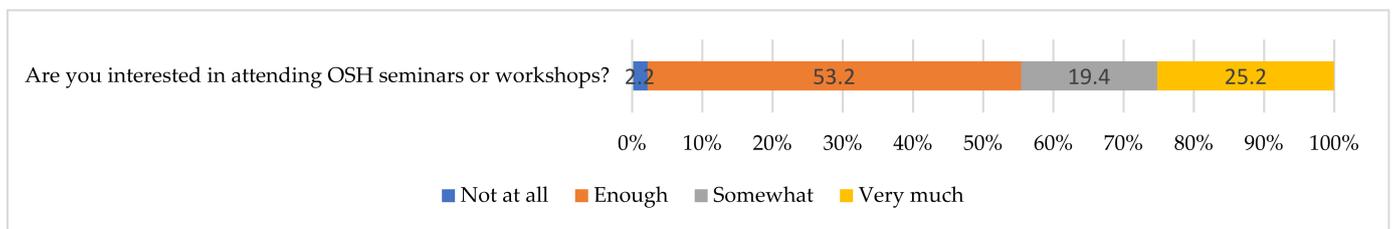
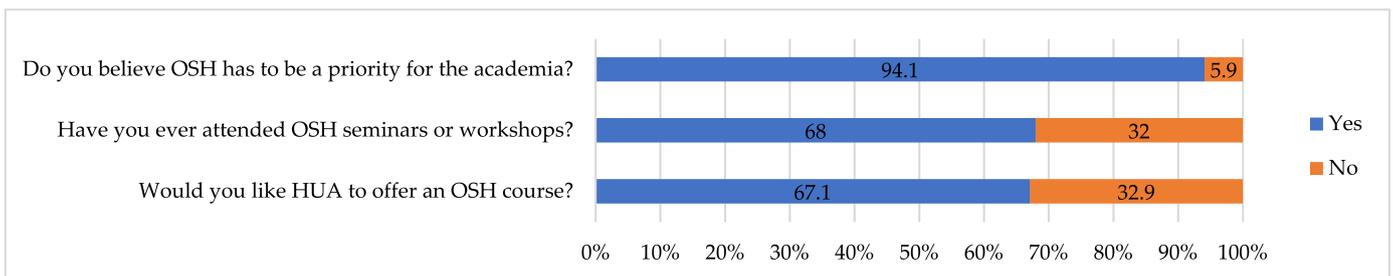


Figure 7. OSH in Academia.

Prior to exploring respondents’ willingness to advance HUA’s attempts to further promote OSH and offered OSH courses at HUA, this section provides a statistical analysis. The regression results with reference to the respondents’ willingness to advance HUA’s attempts to continue promoting OSH are presented in Table 2. The Hosmer and Lemeshow test, for a level of statistical significance $\alpha > 0.05$ ($\chi^2 = 2.981$, $a = 0.7$), indicates no evidence of poor fit; therefore, the model is considered well-calibrated. Moreover, Nagelkerge $R^2 = 0.374$, meaning that the model accounts for 37.4% estimated probability of respondents’ willingness to advance HUA’s attempts to continue promoting OSH.

As follows from Table 2, *Age* and *Capacity* are the two not statistically significant factors (with respect to statistical significance level 1%) in the willingness to contribute to the HUA efforts to further promote OSH education. *Priority* positively affects respondents’ willingness, in contrast to *Seminar_F*, which affects it negatively. Results indicate that those interested in attending OSH seminars or workshops are least willing to contribute to HUA to further promote OSH. On the other hand, those declaring that OSH matters should be of high priority

for academia, as they are more willing to contribute to HUA to further promote OSH. Odds ratio-wise, concerning *Seminar_F* (0.163), odds ratio < 1, denoting that someone's contribution to the HUA efforts to further promote OSH education is less likely, while *Priority* odds ratio > 1, which means that someone's contribution to the HUA efforts to further promote OSH education, is more likely. In particular, *Priority* odds ratio = 8.278, and marginal effect = 7.278 ($e^{\beta} - 1 = 8.278 - 1 = 7.278$), which signifies that the probability of respondents' willingness to contribute to the HUA efforts to further promote OSH education, in correlation with their consideration that the OSH education promotion must be a top priority among university academics, is increased by 72.78%, given that all other variables remain constant.

Table 2. Regression model for the probability of participants' willingness to advance HUA's attempts to continue promoting OSH.

Variables	Estimated Coefficients	Odds Ratio	$e^{\beta-1}$
Constant	3.717	-	-
Age	0.415	1.515	0.515
Capacity	-0.502	0.606	-0.394
Seminar_F	-1.811 *	0.163	-0.837
Priority	2.114 *	8.278	7.278
Pseudo R-squared value (Nagelkerge)	0.374		
Deviance (-2LL) statistic	170.258		
Hosmer-Lemeshow test	2.981		

* Significance: $p \leq 0.01$.

In addition, the regression results, with reference to the respondents' willingness to be offered OSH course, are listed in Table 3. The Hosmer and Lemeshow test, for a statistical significance level $\alpha > 0.05$ ($\chi^2 = 1.569$, $\alpha = 0.905$), indicates no evidence of poor fit, and therefore this model is also considered to be well-calibrated. Furthermore, according to Nagelkerge value ($R^2 = 0.261$), the model explains about 26% of the variability of the dependent variable, that is HUA's students, faculty members, and staff interest in offered an OSH course.

Table 3. Regression model for the probability of HUA's students, faculty member and staff interest in offered OSH course.

Variables	Estimated Coefficients	Odds Ratio	$e^{\beta-1}$
Constant	1.463	-	-
Age	0.506	0.324	-0.676
Capacity	-0.870	2.387	1.387
Seminar_F	-1.366 *	0.255	-0.745
Priority	1.259 *	3.522	2.522
Pseudo R-squared value (Nagelkerge)	0.261		
Deviance (-2LL) statistic	235.182		
Hosmer-Lemeshow test	1.569		

* Significance: $p \leq 0.01$.

As Table 3 shows, *Age* and *Capacity* are the two not statistically significant factors (with respect to statistical significance level 1%) in the willingness to be offered an OSH course. *Priority* positively affects respondents' willingness, in contrast to *Seminar_F*, which affects negatively. Evidence of the current analysis indicates that those interested in attending OSH seminars or workshops are the least willing to offer an OSH course. On the other hand, those declaring OSH an issue should be of high priority for academia, as they are more willing to offer an OSH course. Odds ratio-wise, concerning *Seminar_F* (0.255), odds ratio < 1, which attests someone's willingness to be offered an OSH course, is less likely, while *Priority* odds ratio > 1 signifies that someone's willingness to be offered an OSH

course is more likely. In particular, *Priority* odds ratio = 3.522, and marginal effect = 2.522 ($e\beta - 1 = 3.522 - 1 = 2.522$). This insinuates that the probability of respondents' willingness to be offered an OSH course in correlation with their consideration that the OSH education promotion must be of top priority among the university academics, is increased by 25.22%, given that all other variables remain constant.

Perhaps the most significant limitation of this study is the sample size and representativeness, as well as the response rate. Although the sample could nonetheless lead to particular credible findings [111,112], which could be used to draw theories, a debate of even further or deeper studies, still, future studies should target larger universities in population in order to complement and amplify the impact this research's findings. Despite the aforementioned possible discrepancy, the authors believe that this work is a thorough basis for drawing conclusions, and will encourage further research on OSH education in Greek universities.

4. Conclusions

Although sustainability is used more to describe environmental concerns [113,114], by its definition " . . . human beings are at the center of concern for sustainable development. They are entitled to a healthy and productive life in harmony with nature . . . " [21], it is about more than being green; it is also about people [14]. Therefore, nowadays, it relies on three interrelated aspects pillars known as profit, people, and planet [115–117]. Given this fact, even though the social dimension of sustainability is an often overlooked aspect in comparison to environmental and economic, it is clear that neither environmental nor economic sustainability can be achieved without social. Putting emphasis on the latter, OSH grounded on the framework of the SDGs fits squarely at the centre of practical implementation of the SD strategy. It may thus be considered that OSH, in the modern demanding working environment in terms of physical, chemical, ergonomic, or psychological stresses, and physical workload, serves as an early warning system to prevent human OSH risks. It is an active tool for preventive actions [20].

A focus on youth evidence supports that the young individuals are more likely to suffer work-related accidents than older people [68,110,118–120]. According to Eurostat, in the EU, the rate of work-related accidents among young people aged 18–24 is 50% higher than for older people [121]. The consequences of these accidents vary from minor injuries to permanent disabilities and even death [122]. There are even cases of injuries and deaths of students and instructors at universities [123]. Apart from age [124], characteristic factors include new and part-time employment [125–127], and poor knowledge of work-related hazards and risks [119,126,128–131]. Given this fact, several studies suggest that OSH education can drastically reduce the number of accidents that affect this specific age group [128,132,133]. Studies indicate a 50% reduction in the rate of accidents at work for young people who received OSH education, compared to those without [66,134].

Hence, universities—at the core of the 2030 Agenda, in particular, target 4.3, which refers specifically to them—working with students, faculty members, and staff, as well as their wider community, can serve as a catalyst towards enhancing OSH and consequently sustainability for future generations [22,23]. Stressing the above, universities complying with OSH can serve social development, a key pillar for a sustainable and resilient world. On the basis of the literature review, it can be argued that there are benefits for mainstreaming OSH in education in the fight against work-related accidents. Ultimately, efforts towards mainstreaming OSH in education may play a significant role in shaping the safety attitudes of the students, and leveraging them in times of tough challenges of the labour market [99,135]. However, the EU-OSHA, which supports that mainstreaming OSH in education should be a priority throughout the universities' curriculum, reports that such integration is the most challenging. The reasons include universities' autonomy in terms of their curricula, lack of teaching resources on the topic, and unconvinced lecturers/professors on the importance of the OSH concept [68].

Regarding Greece, even though the OSH framework is undoubtedly established and regulated, mainstreaming OSH in education remains largely incomplete. A unique study aims to identify all courses at Greece's university level specifically relating to OSH, revealing a non-systematic approach. As made obvious, OSH-related courses offered by Greece's universities on both undergraduate and postgraduate levels are limited. According to the above-mentioned study, no undergraduate/postgraduate courses or training programmes specifically relating to OSH were detected at HUA [136]. In this framework, aware of the potential of universities to provide graduates the broad-based knowledge to produce labour-market skills including OSH, the objective of this study is to add to the debate in integrating OSH into the Greek university education, using HUA as a case study. For this purpose, a web-based survey was conducted to address HUA's students, faculty members, and staff OSH knowledge risks, awareness, and attitudes. In addition, their perceptions, opinions, and beliefs of the role of OSH for academia were analysed.

From the results presented above, it is clear that the majority of the respondents are not very aware of the OSH potential risks at HUA and how to prevent or combat them if they occur. It has also been established that the majority of them have not been adequately trained. This indicates that students, faculty members, and staff, in the case of an accident or emergency, will have a low level of preparedness. These findings showed that HUA principals did not have a systematic approach in OSH, so they need to insist further. In terms of OSH rules and procedures, they should also periodically check and review them. Moreover, HUA has to concentrate on safety inductions, and the initial training of students, faculty members, and staff, to improve familiarity with OSH issues. Such training can be performed via video and/or text material. The findings from the statistical analysis depicted respondents' high level of willingness to contribute to the promotion of OSH, while additional evidence suggests a considerable commitment of the respondents to participate in HUAs' OSH-related training and education. Findings are consistent with the wider literature in the field [74,100,123,137], which supports the high level of willingness among university affiliates to contribute toward the promotion of OSH.

To conclude, sustainability is under crisis; the labour market is changing; OSH is being refocused; universities have to follow. Reporting on the current state of OSH education at Greek universities, the study suggests revising the curricula according to the OSH related to their expertise. This change in curricula will improve the effectiveness of all OSH interventions in workplaces. Most Greek universities point out OSH's utmost importance, mainly in engineering. Stressing the above, HUA can do more when addressing OSH. The study specifically recommends that the contents of OSH in HUA's curricula could be extended in management and other fields. Furthermore, training should concentrate on pointing out risks on HUA's premises and the proper use of PPE. Encompassing the real dilemmas, in practice, this study captures the complicated OSH issue from an educational point of view towards serving sustainability, and provides in addition to theoretical support and results of great practical significance, a reference point for future OSH education projects or research.

Author Contributions: Conceptualization, S.K.; methodology, S.K. and I.V.; validation, A.A.Z. and R.M.; formal analysis, S.K.; investigation, S.K. and I.V.; resources, S.K. and I.V.; data curation, S.K. and I.V.; writing—original draft preparation, S.K. and I.V.; writing—review and editing, S.K., I.V. and A.A.Z.; supervision, A.A.Z., R.M. and P.K.; project administration, S.K. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Data Availability Statement: The data presented in this study are contained within this manuscript for reproducibility purposes.

Acknowledgments: We would like to thank all, who have directly or indirectly helped us in carrying out this study. The authors would like to particularly acknowledge the two colleagues supporting earlier draft parts of the current research, as well as attendees of the 2019 *International Institute of Engineers and Researchers International Conference on Natural Science and Environment*, Florence, Italy, who provided valuable insights for improvements during the symposium.

Conflicts of Interest: The authors declare no conflict of interest.

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